

WHAT IS CLAIMED IS:

1. In a computer system, a method of combining first and second filtering trees, comprising:

determining whether two nodes at a topmost level of each  
5 of the first and second trees are both OR nodes, and if so,  
providing a resulting OR node of a single resultant  
filtering tree;

merging each child node of the first tree with a child  
node of the second tree into a merged node when such nodes can  
10 be successfully combined, and adding each merged node to the  
resulting OR node as a child node thereof; and

adding each child node of the first tree and each child  
node of the second tree that cannot be successfully combined  
to the resulting OR node as a child thereof;  
15 and if the topmost nodes are not both OR nodes,

evaluating each topmost node.

2. The method of claim 1 further comprising, merging  
child nodes beneath a merged node into a merged child node  
20 when child nodes can be successfully combined.

3. The method of claim 1 wherein merging each child  
node that can be successfully combined includes performing a  
union of a set of data points of each node.

4. The method of claim 1 wherein evaluating the topmost nodes determines that one node is an OR node, and further comprising, treating the other topmost node as a single child  
5 of an OR node.

5. The method of claim 1 wherein evaluating the topmost nodes determines that neither topmost node is an OR node, and further comprising, determining whether the two topmost nodes  
10 represent a same event variable.

6. The method of claim 5 wherein the two topmost nodes do not represent the same event variable, and further comprising, providing an OR node, and adding the first and  
15 second trees to the OR node as children thereof.

7. The method of claim 5 wherein the two topmost nodes represent the same event variable, and further comprising, merging the two topmost nodes into a merged node.  
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8. The method of claim 7 wherein merging the topmost nodes includes performing a union of a set of data points of each node.

9. The method of claim 7 further comprising merging child nodes at each level of children below the merged node into a merged child node when such child nodes can be merged.

5 10. The method of claim 1 further comprising, traversing the resultant filtering tree with actual event data.